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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,272	02/18/2004	Robert J. Koffron	KOFF 0124 PUS1	2056

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EXAMINER	
KASTLER, SCOTT R	
ART UNIT	**PAPER NUMBER**
1742	

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/781,272	KOFFRON ET AL.	
	Examiner	Art Unit	
	Scott Kastler	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-25 and 28-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14-25 and 28-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Means-Plus-Function Language

In the response filed on 12-29-2004, applicant has properly asserted means-plus-function interpretation of the terms "means for orienting the refractory body " and "means for orienting the refractory body" appearing in independent claims 1, 14 and 30, and defined in the specification, as pointed out by the applicant, at pages 5 and 9 as the "sacrificial elongated member" constructed of hollow or solid metal and which can be coated with refractory material.

Claim Objections

Claim 28 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The above claim does not fairly further limit independent apparatus claim 14, because the recitation that the means for aligning be a "sacrificial member" is both already recited in the independent claim, since applicant has asserted means-plus-function interpretation of the term "means for aligning" (see the arguments filed on 12-29-2004) where the means for aligning as defined by the applicant is stated to be a "sacrificial member" and because "sacrificial member" is a limitation dealing with the intended use of the apparatus (use of the apparatus in an environment where the member would degrade/dissolve). It has been well settled that the manner or method of use of an apparatus cannot be relied upon to fairly further limit claims to the apparatus itself. See MPEP 2114.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7, 9, 14-16, 24, 25 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eastwood in view of either of Labate et al'734 or LaBate'903. Eastwood teaches a vortex inhibitor (1) comprising a uniform refractory body (2) having a generally tapering shape along a longitudinal axis from a base to a narrow end, and including a hollow chamber (3) which may include a shaft (15) and a "sacrificial member" (10) which may be hollow, and thereby inherently filled with molten metal when inserted into a molten metal bath (see claim 1 for example, where the internal metallic element is only optional), or in the form of a solid bar of metal or refractory (thereby "refractory filled") and optionally coated by a refractory (see col. 3, lines 50-54 for example), with or without the use of a central shaft (14) to which the member is fitted over and connected to the uniform refractory body by extended crimps (see col. 2 lines 48-56 for example) or protrusions (9), where the vortex inhibitor is inherently self orienting when supported in the molten metal, thereby showing all aspects of the above claims except the recitation that the vortex inhibitor have any particular specific gravity, since the member (10) would eventually dissolve in some unspecified molten metal at some unspecified temperature before reaching a discharge nozzle in some unspecified amount of time and the above claims as explained previously, allow for any molten metal at any temperature where the vortex inhibitor is immersed in the molten metal for any time before reaching the discharge nozzle. Both of Labate et al'734 (at col. 1 lines 40-46 for example) and LaBate'903

(at col. 1 lines 52-55 for example) teach that in order to more surely guide the vortex inhibitor to the tap hole of a metallurgical vessel during tapping, it was well known in the molten metal dispensing art at the time the invention was made to make vortex inhibitors with specific gravities within ranges including those instantly claimed (specific gravities higher than that of molten slag but lower than that of molten steel). Because the system of Eastwood would also desire improved efficiency in placing the vortex inhibitor, motivation to employ a vortex inhibitor with a specific gravity higher than that of molten slag but lower than that of molten steel as taught to be effective for this purpose by either of Labate et al'734 or LaBate'903, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Claims 1-12, 14-25 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eastwood in view of either of Labate et al'734 or LaBate'903. As applied to claim 1 above, Eastwood in view of Labate et al'734 or LaBate'903 teaches a vortex inhibitor showing all aspects of the above claims except the specifically recited connection means for connecting the sacrificial member (12) and the uniform refractory body (2), or the use of a sacrificial member of any specific shape. However, Eastwood allows for the use of any desired connection means for connecting parts (2) and (12) including screw means (see col. 2 lines 28-31 for example). Eastwood also allows for of any desired generally tapering refractory shape for the head (2). The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because with respect to the particularly claimed connection means, as

stated above, Eastwood allows for the use of any desired connection means, and it is Officially noted that screw threads, crimps and protrusions are old and well known connection mechanisms in the refractory connection art. It would have been a modification obvious to one of ordinary skill in the art at the time the invention was made to substitute the connection means disclosed by Eastwood and employ any other art recognized equivalent connection means, since Eastwood specifically allows for such a substitution. With respect to the use of any specific configuration for the head portion (2) of Eastwood, it has been well settled that where a component (the head) is shown by the prior art, motivation to alter the shape or configuration of the component without materially altering the function of the component would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. See *In re Dailey*, 149 USPQ 47. Therefore, it would have also been obvious to one of ordinary skill in the art at the time the invention was made to employ a head member in Eastwood where the member is of any desired shape, since Eastwood allows for any desired generally tapering configuration of the head member and the shape of the head member has not yet been shown to materially alter the operation of the member or the apparatus as a whole.

Response to Arguments

Applicant's arguments filed on 12-29-2004 have been fully considered but they are not persuasive. Applicant's argument that the member (12) of Eastwood does not either meet the means-plus-function limitation of a "means for orienting" and that the member (12) blocks the taphole are not persuasive. The member (12) of Eastwood is substantially identical in structure and form to the "sacrificial member" of the instant claims and would reasonably be expected to

operate in substantially the same manner, and would, absent any demonstrated new or unexpected result arising therefrom, meet the requirement of an orienting means as described in the instant claims, including not materially blocking the taphole, which function is performed by the body (2) of Eastwood. Further, since the vortex inhibitor itself is being instantly claims, and not the combination of vortex inhibitor and taphole or metallurgical vessel, the use of the vortex inhibitor in any particular manner, including use in a vessel with a taphole configured so that the taphole is not blocked by the sacrificial member, is at best a suggested use of the claimed apparatus and therefore, not alone further limiting upon claims to the apparatus itself.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (571) 272-1243. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott Kastler
Primary Examiner
Art Unit 1742

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